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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,718	09/15/2003	Nobuyuki Ito	CU-3360	1336

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EXAMINER	
CLEVELAND, MICHAEL B	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/662,718	ITO ET AL.	
	Examiner	Art Unit	
	Michael Cleveland	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *7-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 7-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/14/2004.

Specification

2. The objection to the specification is withdrawn in view of the amended abstract.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase (U.S Patent 6,730,357, hereafter '357) in view of Roitman et al. (U.S. Patent 6,137,221, hereafter '221) and Noguchi et al. (U.S. Patent 5,606,356, hereafter '356).

'357 is discussed above, but does not explicitly teach relatively moving the substrate compare to the ink-jet nozzle and an infrared heater over the substrate. However, '221 teaches that the cost of fabricating EL devices may be reduced by fabricating them on roll-to-roll equipment (i.e., where the substrate moves past or through the coating equipment), which is compatible with printing techniques (col. 4, lines 53-65) including ink-jet printing (col. 5, lines 1-7). '356 teaches that heat can be provided to a moving substrate that receives ink-jet printing by use of an infrared heater above the substrate (col. 9, lines 11-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the EL device of '357 on roll-to-roll equipment because '221 teaches that such production reduces the cost, and to have provided the heat for drying via an infrared heater

because '356 teaches that such is a suitable method of providing heat to ink-jet receiving substrates.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase '357 in view of Roitman '221 and Noguchi '356, as applied to claim 1 above, and further in view of Pham et al. (U.S. Patent Application Publication 2002/0127344, hereafter '344).

'357 is discussed above, but does not explicitly teach that the temperature of the substrate does not rise. '344 teaches that the substrate may already be heated at the time of deposition to accelerate the evaporation of the solvent [0006]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have deposited the ink of '357 on an already heated substrate in order to have accelerated the drying process. Thus, the temperature of the substrate would not rise during application of the ink, particularly in view of the teachings of '357 that the substrate temperature has an effect on the process (col. 7, lines 31-33), thereby motivating keeping the substrate temperature constant in order to ensure process repeatability.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase '357 in view of Roitman '221 and Noguchi '356, as applied to claim 1 above, and further in view of Mian et al. (U.S. Patent 6,319,469, hereafter '469).

'357 is discussed above, but does not explicitly teach that the heater is a Peltier element. However, '357 is open to the use of other heating mechanisms (col. 7, lines 62-63). '469 teaches that Peltier heat elements are operative for heating (col. 50, lines 53-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a Peltier heat element as the particular heater of '357 with a reasonable expectation of success because '469 teaches that it is a suitable tool for providing heat. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

Response to Arguments

7. Applicant's arguments filed 7/7/2005 have been fully considered but they are not persuasive.

8. Applicant's argues that if ink-jetted ink is air dried, a meniscus shape gives an uneven layer thickness. The argument is unconvincing because it is unsupported by evidence, because it is not commensurate in scope with the claim (which do not require ink jet printing), and because it does not represent a contrast to the closest prior art, which teaches heating to dry.

Applicant's arguments regarding clogging of nozzles is unconvincing because it is not supported by evidence commensurate in scope with the claims.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant's arguments regarding Kawase and Fujita are unconvincing because they do not address the teachings of Roitman and Noguchi.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gordon et al. (U.S. Patent 4,811,038) and Ushirogouchi et al. (U.S. Patent Application Publication 2003/0231234) are cited as examples of heating ink jet substrates.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (571) 272-1418. The examiner can normally be reached on Monday-Thursday, 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Cleveland
Primary Examiner
Art Unit 1762

2/3/2005